SHARP

MODEL

AR-151

DIGITAL LASER COPIER

OPERATION MANUAL

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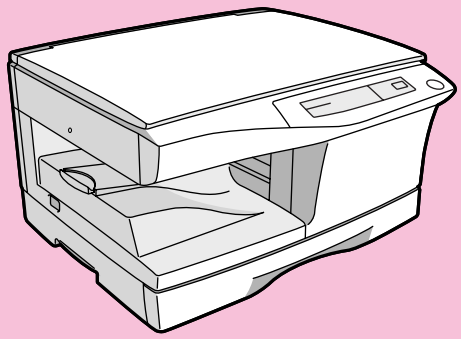

FOR YOUR RECORDS ...

To protect against loss or theft, record and retain for reference the copier's serial number located on the back of the unit.

Model Number _____

Serial Number _____

Date of Purchase _____

Place of Purchase _____

Authorized Sharp Copier
Service Department Number _____

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1 GETTING STARTED

This chapter provides basic information for using the copier.

INTRODUCTION

This copier has been designed to provide intuitive operating ease while requiring a minimum amount of space. To get full use of all copier features, be sure to familiarize yourself with this manual and the copier.
For quick reference during copier use, keep this manual in a handy location.

Note

This copier can be used as a laser printer and as a facsimile machine by installing optional components. However, this manual describes only the copier features. For description of the printer features and facsimile features, see their separate manuals.

Conventions used in this manual

In this manual, the following icons are used to provide the user with information pertinent to the use of the copier.

Warning

Warns the user that injury to the user or damage to the copier may result if the contents of the warning are not properly followed.

Caution

Cautions the user that damage to the copier or one of its components may result if the contents of the caution are not properly followed.

Note

Notes provide information relevant to the copier regarding specifications, functions, performance, operation and such, that may be useful to the user.

Indicates a letter displayed in the display.

CAUTIONS

Follow the cautions below when using this copier.

- The fusing area is hot. Exercise care in this area when removing misfed paper.
- Do not look directly at the light source. Doing so may damage your eyes.
- Do not switch the copier rapidly on and off. After turning the copier off, wait 10 to 15 seconds before turning it back on.
- Copier power must be turned off before installing any supplies.

- Place the copier on a firm, level surface.
- Do not install the copier in a humid or dusty location.
- When the copier is not used for a long time, for example, for consecutive holidays, turn the power switch off and remove the power cord from the outlet.
- When moving the copier, be sure to turn the power switch off and remove the power cord from the outlet.
- Do not cover the copier with a dust cover, cloth or plastic film while the power is on. Doing so may prevent heat radiation, damaging the copier.
- Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

SAFETY PRECAUTIONS

This Digital Copier is rated Class 1 and complies with 21 CFR 1040.10 and 1040.11 of the CDRH standards. This means that the copier does not produce hazardous laser radiation. For your safety, observe the precautions below.

- Do not remove the cabinet, operation panel or any other covers.
- The copier's exterior covers contain several safety interlock switches. Do not bypass any safety interlock by inserting wedges or other items into switch slots.

MAIN FEATURES

① High-speed laser copying

- Since warm-up time is zero, copying can be started immediately after the power switch is turned on.
- First-copy time is only 9.6 seconds (normal mode).
- Copying speed is 15 copies/min., which adapts to business use, allowing improvement of working efficiency.

② High-quality digital image

- High-quality image copying at 600 dpi can be performed.
- In addition to the automatic exposure mode, the manual exposure can be adjusted in five steps.
- The photo mode copying function allows clear copying of delicate halftone original images such as monochrome photos and color photos.

③ Substantial copying functions

- Zoom copying from 50% to 200% in 1% increments can be performed.
- Continuous copying of maximum 99 sheets can also be performed.
- Toner save mode reduces toner consumption by approximately 10%.
- User programs allow setting/modification of functions for customer's needs.

④ Scan once/ Print many

- The copier is equipped with a 1-page memory buffer. This Memory allows the copier to scan an original once only and make up to 99 copies. This feature allows for improved workflow, reduced operating noise from the copier and reduced wear and tear on the scanning mechanism. This feature provides for a higher reliability.

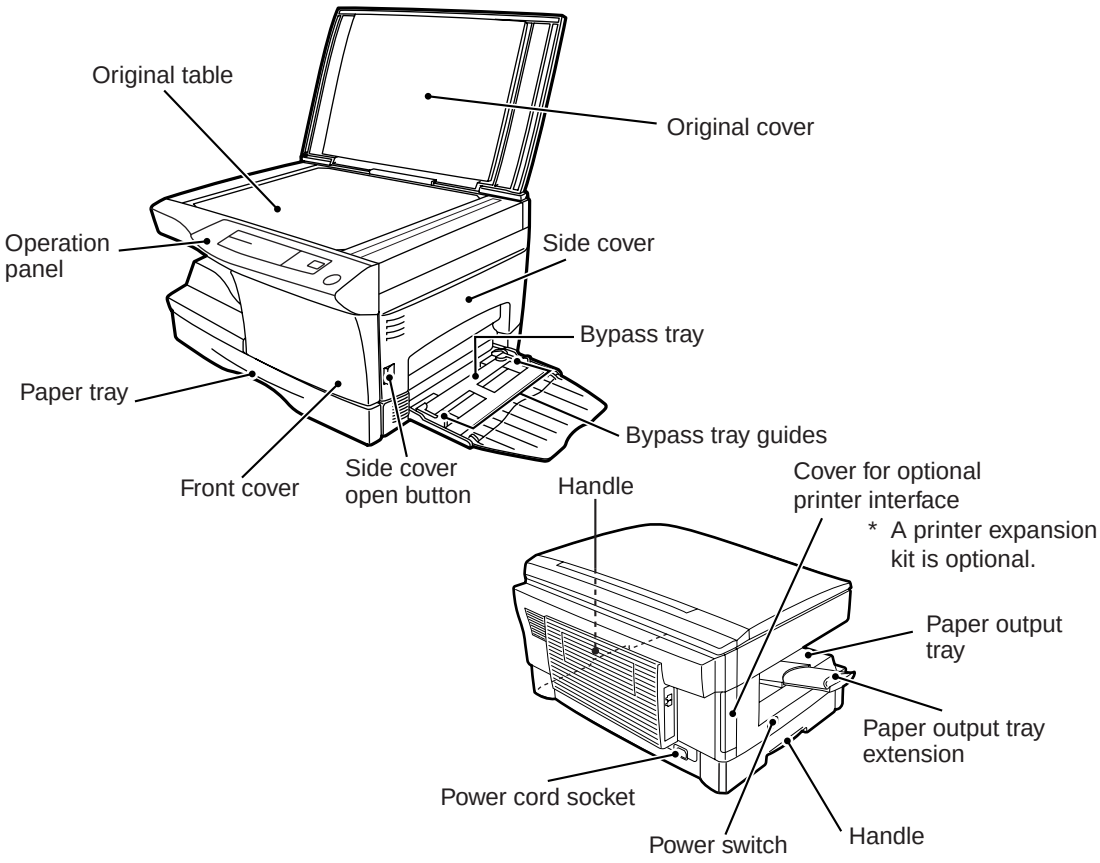
⑤ Optional features

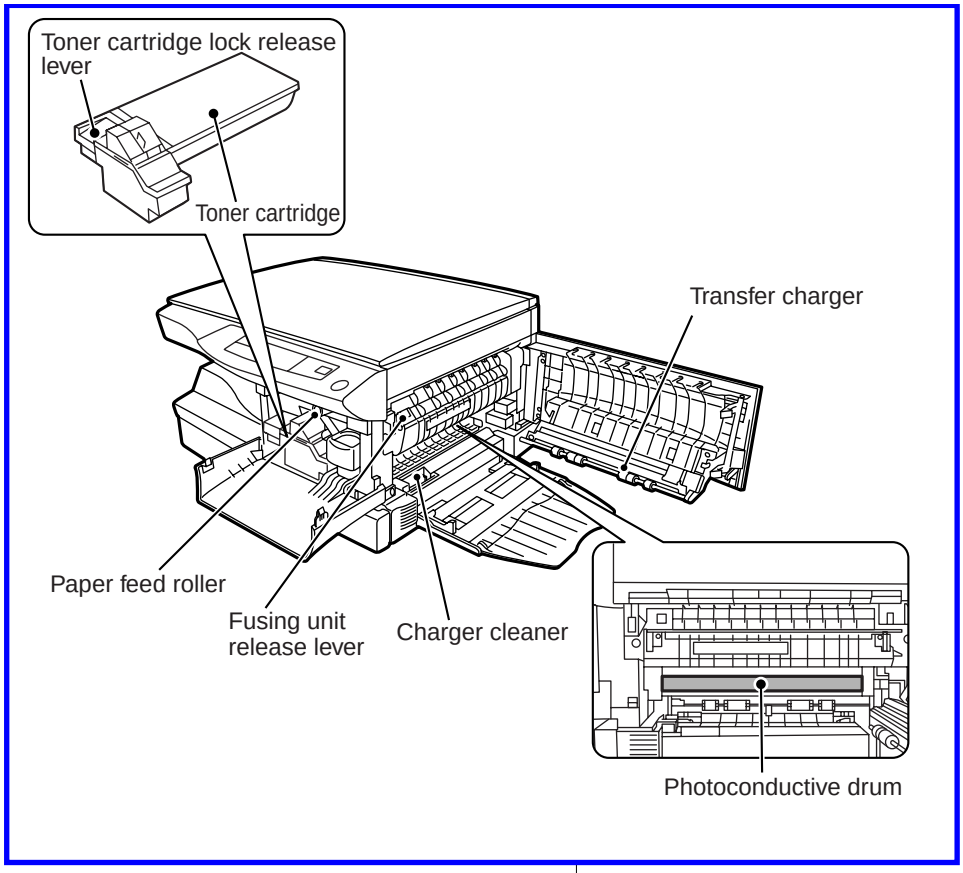
- An optional single pass feeder (SPF) allows automatic document feeding of up to 30 sheets.
- The copier can be used as a laser printer by installing an optional printer expansion kit.
- This copier can be used as a facsimile machine by installing an optional facsimile expansion kit.
- An optional 250-sheet paper feed unit can be installed to allow a total capacity of 500 sheets with two paper trays.

⑥ Environmentally friendly design

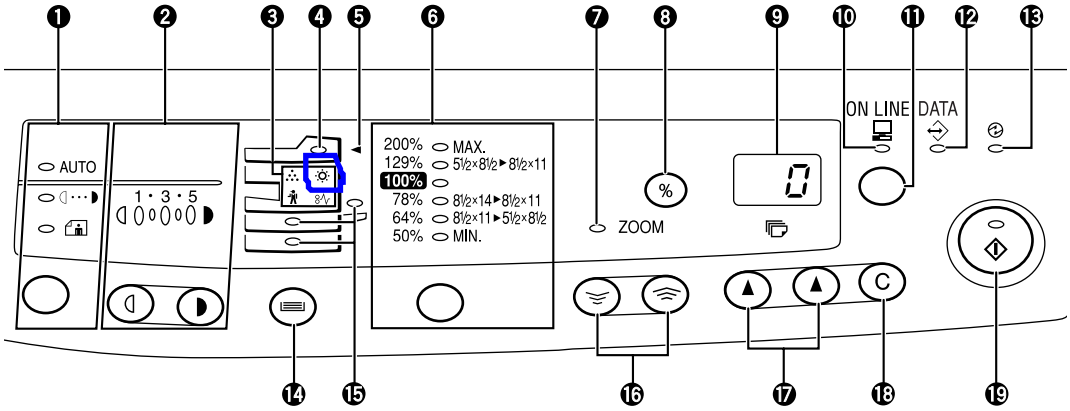
- Paper output tray is housed in the copier for space saving.
- Preheat and auto power shut-off modes are provided to reduce power consumption in standby mode.

PART NAMES


Original table
Original cover
Operation panel
Side cover
Bypass tray
Paper tray
Bypass tray guides
Front cover
Side cover open button
Handle
Cover for optional printer interface
* A printer expansion kit is optional.
Paper output tray
Paper output tray extension
Power cord socket
Power switch
Handle


Toner cartridge lock release lever
Toner cartridge
Transfer charger
Paper feed roller
Fusing unit release lever
Charger cleaner
Photoconductive drum

OPERATION PANEL



❶ **Exposure mode selector key and indicators**
Use to sequentially select the exposure modes: AUTO, MANUAL or PHOTO. Selected mode is shown by a lit indicator. (p. 14)

❷ **Light and dark keys and exposure indicators**
Use to adjust the MANUAL or PHOTO exposure level. Selected exposure level is shown by a lit indicator. (p.14)
Use to start and terminate user program setting. (p. 20)

❸ **Alarm indicators**
: Developer replacement required indicator (p. 29)
: Misfeed indicator (p. 26)
: Toner cartridge replacement required indicator (p. 22)
: Maintenance indicator (p. 29)

❹ **SPF indicator** (p. 38)

❺ **SPF misfeed indicator** (p. 38)

❻ **Copy ratio selector key and copy ratio indicators**
Use to sequentially select preset reduction/ enlargement copy ratios.
Selected copy ratio is shown by a lit indicator. (p. 16)

❼ **Zoom indicator** (p. 16)

❽ **Copy ratio display (%) key** (p. 15)

❾ **Display**
Displays the specified copy quantity, zoom copy ratio, user program code, and error code.

❿ **ON LINE indicator**
Lights up when the machine is used as a printer. To use the copier as a printer, an optional printer expansion kit is needed.

⓫ **ON LINE key**
Changes between the on-line and off-line modes when the PCL expansion kit has been installed and a PCL printer is used. Changes modes from the off-line to on-line when the GDI expansion kit has been installed and a GDI printer is used.

⓬ **DATA indicator**
Indicates that the printer is receiving or processing print data. To use the copier as a printer, an optional PCL expansion kit is needed.

⓭ **Power save indicator**
Lights up when the copier is in a power save mode. (p. 19, 20)

⓮ **Tray select key**
Use to select a paper feed station (paper tray or bypass tray). (p. 17)

⓯ **Paper feed location indicators**
Light up to show the selected paper feed station.

⓰ **Zoom keys**
Use to select any reduction or enlargement copy ratio from 50 to 200% in 1% increments. (p. 15)

⓱ **Copy quantity keys**
- Use to select the desired copy quantity (1 to 99). (p. 15)
- Use to make user program entries. (p. 20)

⓲ **Clear key**
- Press to clear the display, or press during a copy run to terminate copying. (p. 13)
- Press and hold down during standby to display the total number of copies made to date. (p. 21)

⓳ **Print key and ready indicator**
- Copying is possible when the indicator is on.
- Use to set a user program.

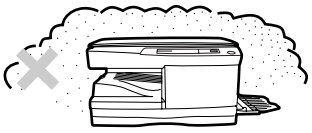
COPIER INSTALLATION

Improper installation may damage the copier. Please note the following during initial installation and whenever the copier is moved.

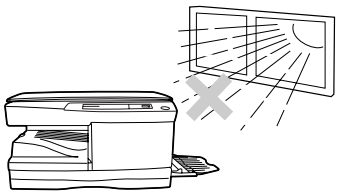
> Caution
>
> If the copier is moved from a cool place to a warm place, condensation may form inside the copier. Operation in this condition will cause poor copy quality and malfunctions. Leave the copier at room temperature for at least 2 hours before use.

Do not install your copier in areas that are:

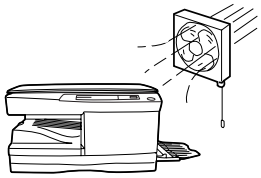
- damp, humid, or very dusty



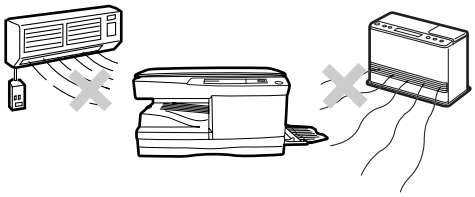
- exposed to direct sunlight



- poorly ventilated



- subject to extreme temperature or humidity changes, e.g., near an air conditioner or heater.

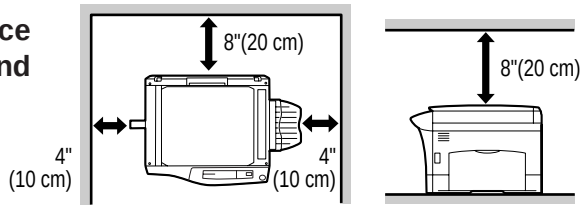


The copier should be installed near an accessible power outlet for easy connection.

Be sure to connect the power cord only to a power outlet that meets the specified voltage and current requirements.
Also make certain the outlet is properly grounded.

> Note
>
> Connect the copier to a power outlet which is not used for other electric appliances. If a lighting fixture is connected to the same outlet, the light may flicker.

Be sure to allow the required space around the machine for servicing and proper ventilation.

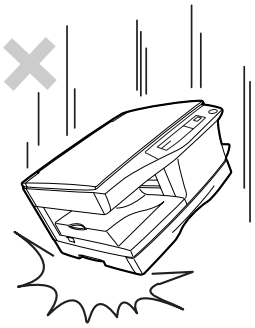


A small amount of ozone is produced within the copier during operation. The emission level is insufficient to cause any health hazard.
NOTE:
The present recommended long term exposure limit for ozone is 0.1 ppm (0.2 mg/m^3) calculated as an 8 hr. time-weighted average concentration.
However, since the small amount that is emitted may have an objectionable odor, it is advisable to place the copier in a ventilated area.

CAUTIONS ON HANDLING

Be careful in handling the copier as follows to maintain the performance of this copier.

Do not drop the copier, subject it to shock or strike it against any object.

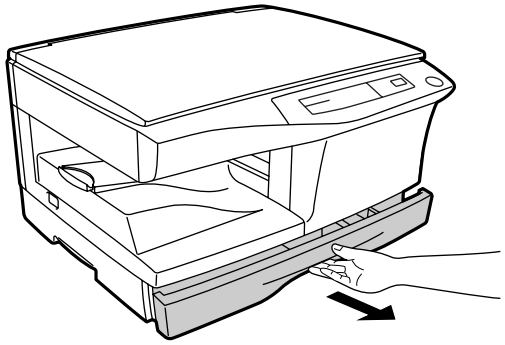


Store spare toner cartridges in a cool dry place without removing from the package before use.
If they are exposed to direct sunlight or excessive heat, poor print quality may result.

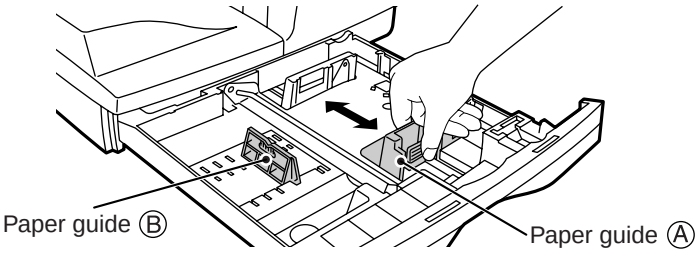
Do not touch the photoconductive drum (green portion).
Scratches or smudges on the drum will cause dirty copies.

LOADING COPY PAPER

1 Raise the handle of the paper tray and pull the paper tray out until it stops.



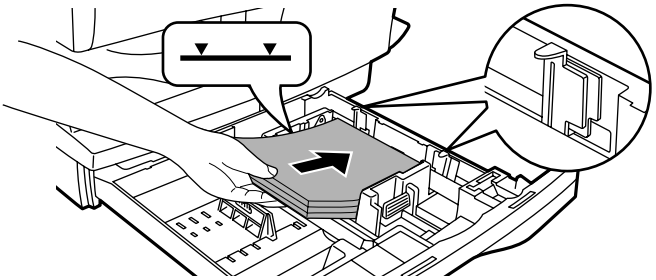
2 Adjust the paper guides on the paper tray to the copy paper width and length.
Squeeze the lever of paper guide Ⓐ and slide the guide to match with the width of the paper.
Move paper guide Ⓑ to the appropriate slot as marked on the tray.



3 Fan the copy paper and insert it into the tray. Make sure the edges go under the corner hooks.

Note

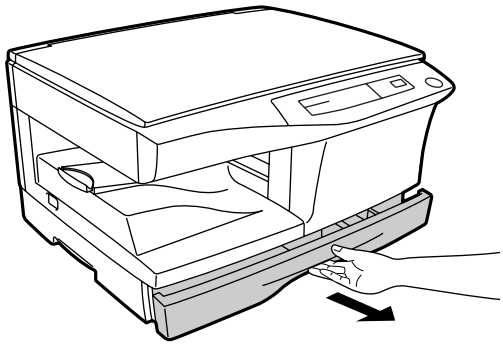
Do not load paper above the maximum height line (▼ ▼). Exceeding the line will cause a paper misfeed.



4 Gently push the paper tray back into the copier.

Note

After loading copy paper, to cancel the blinking “P” without restarting copying, press the clear (C) key. The “P” in the display will go out and the ready ( ) indicator will light up.

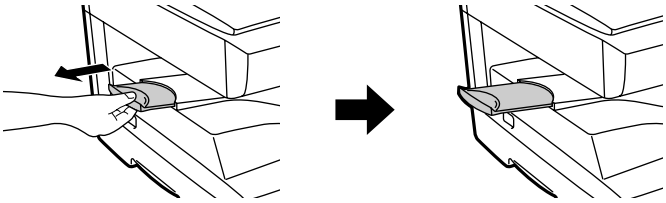


2 MAKING COPIES

This chapter describes basic copying functions and some other copying functions using the bypass tray.

NORMAL COPYING

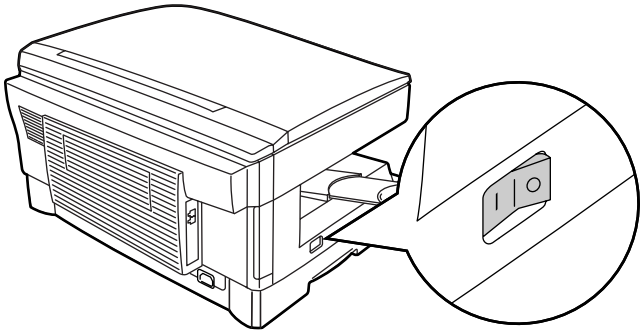
1 Ensure that paper of the desired size is set in the paper tray. See page 10, **LOADING COPY PAPER**. When copying onto paper larger than 8-1/2" x 11" size, pull out the paper output tray extension.



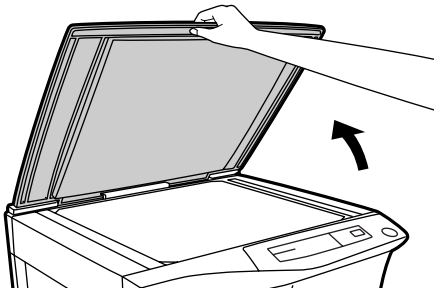
2 Turn the power switch on.
The ready ( ) indicator will light up.

Note

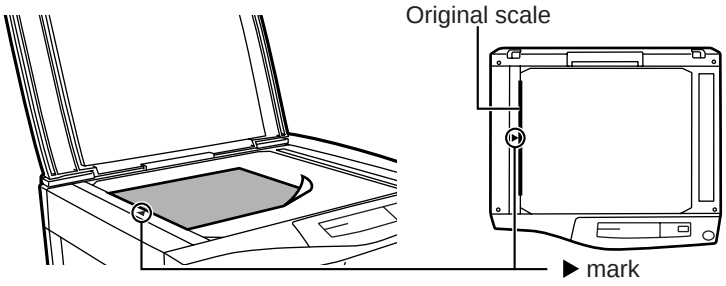
- The copier will enter a power save mode once the set time has elapsed without any copier operation after the last copy of a run is made or power is turned on.
  The settings of the power save modes can be modified. See page 20, **USER PROGRAMS**.
- The copier will return to the initial settings a preset amount of time after the last copy is made. The preset amount of time (auto clear time) can be changed. See page 20, **USER PROGRAMS**.



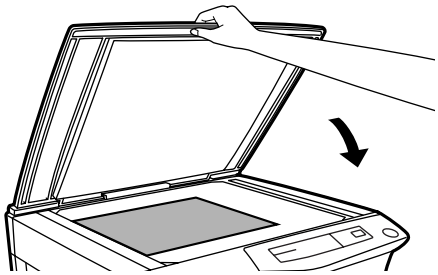
3 Open the original cover.



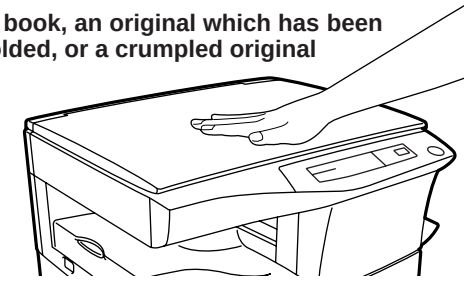
4 Place the original face down on the original table. Align it with the original scale and the centering (▶) mark.



5 Gently close the original cover. When copying a book or an original which has been folded or a crumpled original, press down the original cover lightly. If the original cover is not securely closed, the copies may be striped or blurred.



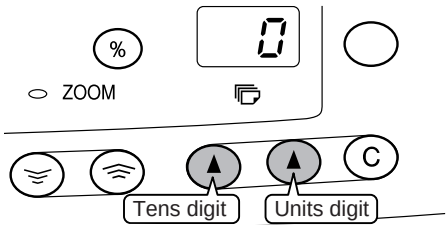
A book, an original which has been folded, or a crumpled original



6 Set the number of copies using the two copy quantity (▲, ▲) keys.

Note

- Press the clear (C) key to clear an entry if a mistake is made.
- A single copy can be made with the initial setting, i.e., when “0” is displayed.

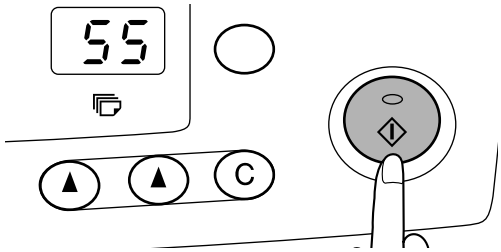


- Press the right copy quantity key to set the units digit from 0 to 9. This key will not change the tens digit.
- Press the left copy quantity key to set the tens digit from 1 to 9.

7 Press the print ( ) key.

Note

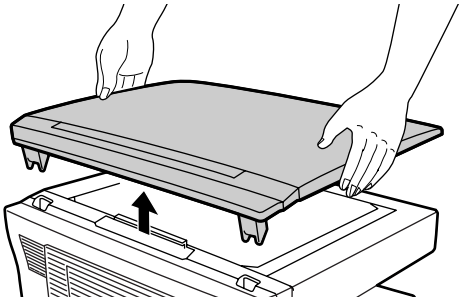
- To display the number of copies made in a continuous run, press the left copy quantity key.
- To stop copying in the middle of a run, press the clear (C) key. Copying will stop and the number in the display will be reset to "0".



Setting a large original

The original cover can be removed to allow copying of bulky objects.

1 Simply lift the original cover straight up.



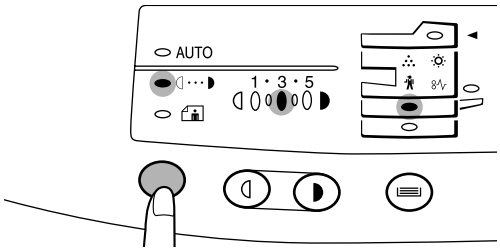
2 To reattach the original cover, reverse the above procedure.

EXPOSURE ADJUSTMENT/PHOTO COPYING

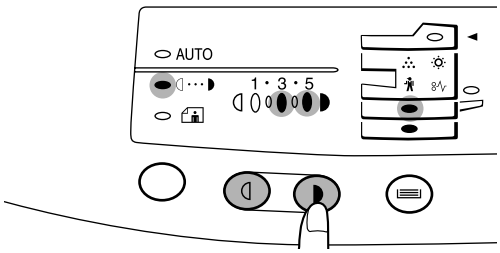
Copy density adjustment is not required for most originals in the automatic exposure mode. To adjust the copy density manually or to copy photographs, the exposure level can be adjusted in five steps manually.

1 Set the original and check the copy paper size.

2 Press the exposure mode selector key to select the manual (◐ ··· ◗) mode or photo (🖻) mode.



3 Use the light (◐) and dark (◗) keys to adjust the exposure level.
If exposure level 2 is selected, the two left-handmost indicators for that level will light up simultaneously. Also, if level 4 is selected, the two right-handmost indicators for that level will light up simultaneously.



4 Set the number of copies using the copy quantity (▲, ▲) keys and press the print (◈) key.

REDUCTION/ENLARGEMENT/ZOOM

Three preset reduction ratios and two enlargement ratios can be selected. The zoom function enables copy ratio selection from 50% to 200% in 1% increments.

1 Set the original and check the copy paper size.

2 Use the copy ratio selector key and/or zoom (≋, ≋) keys to select the desired copy ratio.

Note

- To verify a zoom setting without changing the zoom ratio, press and hold down the copy ratio display (%) key. When the key is released, the display will return to the copy quantity display.
- To reset the ratio to 100%, press the copy ratio selector key repeatedly until the 100% indicator lights up.

To select a preset copy ratio:

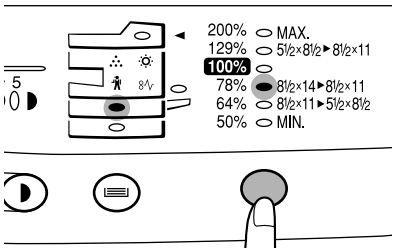
Preset reduction and enlargement ratios are: 50%, 64%, 78%, 129%, and 200%

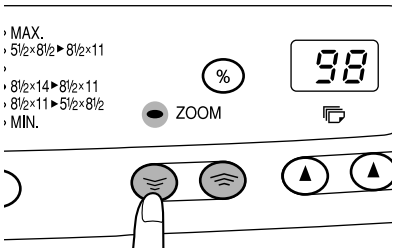
To select a zoom ratio:

When a zoom (▽ or △) key is pressed, the ZOOM indicator will light up and the zoom ratio will be displayed in the display.

Note

To decrease or increase the zoom ratio rapidly, press and hold down the ▽ or △ key. However, the value will stop at the preset reduction or enlargement ratios. To move beyond these ratios, release the key and then press and hold it down again.





3 Set the number of copies using the copy quantity (▲, ▲) keys and press the print (◇) key.

BYPASS FEED (including special paper)

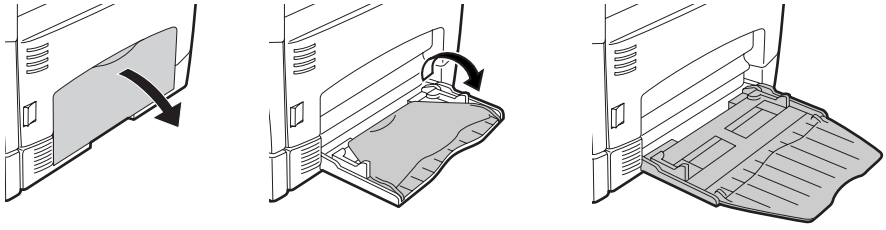
The bypass tray automatically feeds up to 50 sheets of standard copy paper and also feeds special papers such as transparency film and labels one sheet at a time. Copy paper measuring from 3-1/2" x 5-1/2" to 8-1/2" x 14" and in the weight range of 14 to 34.5 lbs. can be used in this tray. (For paper weighing from 28 to 34.5 lbs., 8-1/2" x 11" is the maximum size.)

1 Place the original face down on the original table. Align it with the original scale and close the original cover.

Note

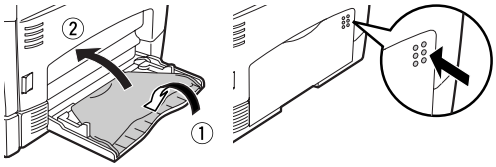
The original image must be smaller than the paper or media for copying.
If the original image is bigger than the paper or media, this may cause smudges on the edges of the copies.

2 Open the bypass tray and extend the tray.



Note

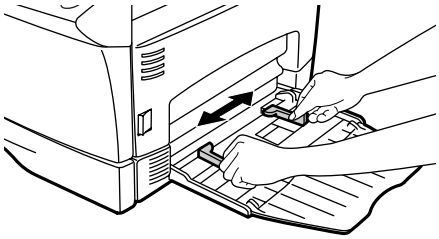
To close the bypass tray, perform step1 and then step 2 in the illustration and push the round projections at the right of the tray until the tray clicks into place.

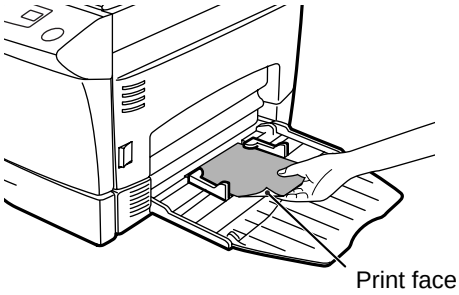


3 Set the paper guides to the copy paper width. Insert the copy paper (print face down) all the way into the bypass tray.

Note

- Paper must be fed narrow side into the feed slot.
- Transparency film, labels, and other special purpose papers must be fed individually.
- When copying onto transparency film, remove each copy promptly. Do not let copies stack up.
- When loading an envelope, make sure that it is straight and flat.



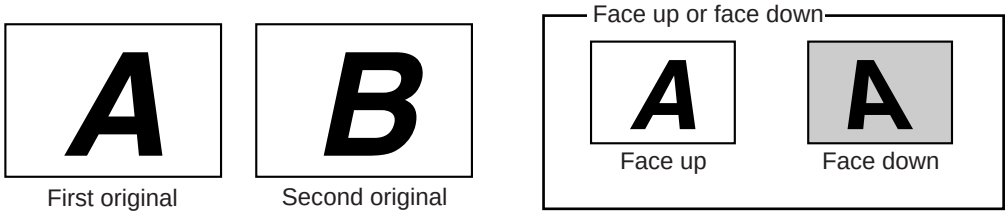


4 Press the tray select ( ) key to select the bypass tray. Set the number of copies if using standard copy paper. Press the print ( ) key.

TWO-SIDED COPYING

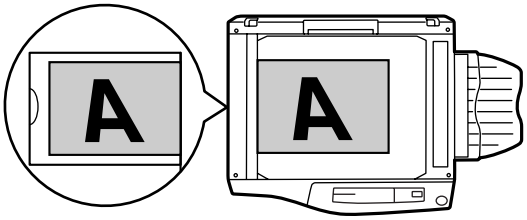
Two-sided copying can be made on this copier using the bypass tray.

Example: The following two originals will be copied onto two sides of copy paper.



TWO-SIDED COPYING

1 Place the first original on the original table and make a copy.
The first copy can be made using either the paper tray or the bypass tray.



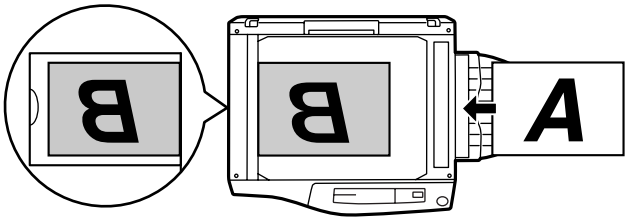
2 Replace the first original with the second original on the original table and close the original cover. Make sure that the first and second originals are oriented in the same way on the original table.

3 For tablet binding, turn the first copy over left to right as shown below. For booklet binding, turn the first copy over top to bottom (not shown). Feed the first copy into the bypass tray.

4 Press the tray select ( ) key to select the bypass tray and press the print ( ) key.

Note

Be sure to feed the copy paper one sheet at a time.



3 SPECIAL FUNCTIONS

This chapter describes the special functions of this copier. Use these functions as needed.

DESCRIPTION OF SPECIAL FUNCTIONS

Toner save mode (page 19)
Reduces toner consumption by approximately 10%.

Power save modes (page 20)
The copier has two power save modes of operation: preheat mode and auto power shut-off mode.

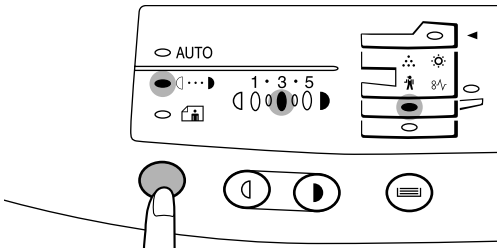
- **Preheat mode**
  When the copier enters the preheat mode, the power save ( ) indicator will light up and other indicators will remain on or off as before. In this condition, the fuser in the copier is maintained at a lower heat level, thereby saving power. To copy from the preheat mode, make desired copier selections and press the print ( ) key using the normal copying procedure.

- **Auto power shut-off mode**
  When the copier enters the auto power shut-off mode, the power save ( ) indicator will light up and other indicators will go out. The auto power shut-off mode saves more power than the preheat mode but requires a longer time before starting copying. To copy from the auto power shut-off mode, press the print ( ) key. Then make desired copier selections and press the print ( ) key using the normal copying procedure.

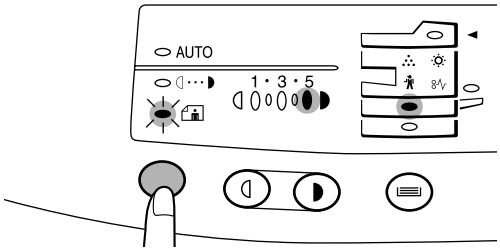
Auto clear (page 20)
The copier returns to the initial settings a preset amount of time after the last copy is made. This preset amount of time (auto clear time) can be changed.

TONER SAVE MODE

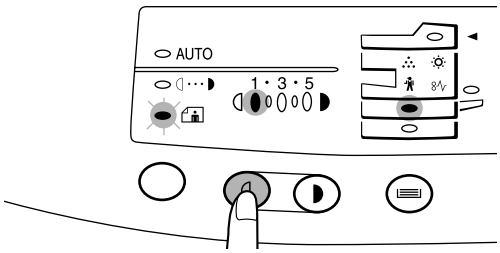
1 Press the exposure mode selector key to select the manual ( ) mode.



2 Press and hold down the exposure mode selector key for approximately 5 seconds. The manual (◑···◗) indicator will go out and the photo (🖻) indicator will begin to blink. The exposure indicator marked "5" will light up, indicating the standard toner mode is active.



3 To enter the toner save mode, press the light (◑) key.
The exposure indicator marked "1" will light up, indicating the toner save mode is selected.



4 Press the exposure mode selector key twice. The photo (🖻) indicator will stop blinking and the AUTO indicator will light up steadily. The toner save mode is now active.

Note

To return to the standard mode, repeat the procedure but use the dark (◗) key to select exposure level "5" in step 3.

USER PROGRAMS (power save modes, auto clear time, stream feeding mode)

The user programs allow the parameters of certain functions to be set, changed, or canceled as desired.

Setting the power save modes and auto clear time

1 Press and hold down the light (◑) and dark (◗) keys simultaneously for more than 5 seconds until all the alarm indicators (☼ , ⚠, ∴ and 🧍) blink and "– –" appears in the display.

2 Use the left copy quantity (▲) key to select a user program number (1: auto clear time, 2: preheat mode, 3: auto power shut-off timer, 4: stream feeding mode, 5: auto power shut-off mode). The selected number will blink in the left side of the display.

3 Press the print (⊜) key. The entered program number will be steadily lit and the currently selected parameter number for the program will blink on the right side of the display.

4 Select the desired parameter using the right copy quantity (▲) key. The entered parameter number will blink on the right of the display.

Program No.	Mode	Parameters
1	Auto clear time	0 ⇨ OFF 1 ⇨ 30 sec. * 2 ⇨ 60 sec. 3 ⇨ 90 sec. 4 ⇨ 120 sec. 5 ⇨ 10 sec.
2	Preheat mode	0 ⇨ 30 sec. 1 ⇨ 60 sec. * 2 ⇨ 90 sec.
3	Auto power shut-off timer	0 ⇨ 2 min. * 1 ⇨ 5 min. 2 ⇨ 15 min. 3 ⇨ 30 min. 4 ⇨ 60 min. 5 ⇨ 120 min.
4	Stream feeding mode	0 ⇨ OFF * 1 ⇨ ON
5	Auto power shut-off mode	0 ⇨ OFF * 1 ⇨ ON

Factory default settings are indicated with an asterisk (*).

5 Press the print (⊜) key. The right-hand number in the display will be steadily lit and the entered value will be stored.

Note

To change the setting or to set another mode, press the clear (Ⓒ) key. The copier will return to step 2.

6 Press the light (◐) or dark (◑) key to return to the normal copy mode.

DISPLAYING TOTAL NUMBER OF COPIES

Use the following procedure to display the total number of copies.

1 Press the clear (Ⓒ) key to reset the display to zero.

2 Press and hold down the clear (Ⓒ) key for approximately 5 seconds. The total number of copies will appear in two steps, each with three digits.
Example: Total number of copies is 1,234.

4 SUPPLIES AND USER MAINTENANCE

This chapter describes how to replace the toner cartridge.

Caution

Be sure to use only genuine SHARP parts and supplies.

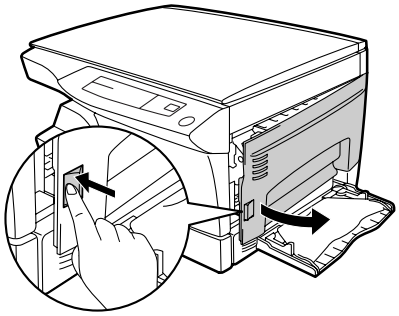
TONER CARTRIDGE REPLACEMENT

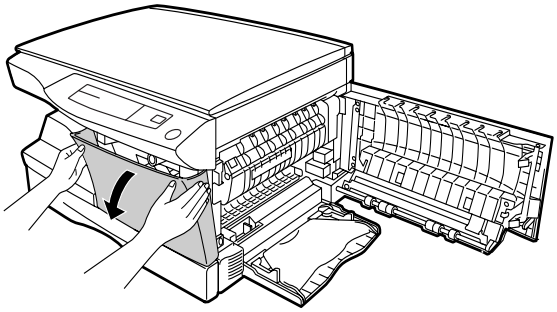
When the toner cartridge replacement required (⁘) indicator lights up, replacement of the toner cartridge will be needed soon. Obtain a new cartridge. When the toner cartridge replacement required (⁘) indicator blinks, the toner cartridge must be replaced before copying can be resumed. Replace the toner cartridge by following the procedure below.

Note

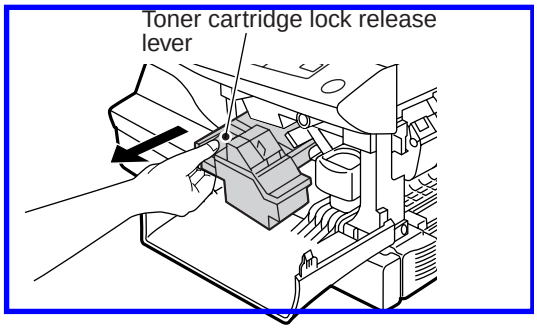
During a long copy run of a dark original, the ready ((◇)) indicator may blink, the ⁘ indicator light up, and the copier stop, even though toner is left. The copier will feed toner up to 2 minutes and then the ready ((◇)) indicator will light up. Press the print ((◇)) key to restart copying.

1 Ensure that the bypass tray is open and then open the side cover while pressing the side cover open button.
Then, push gently on both sides of the front cover to open the cover.





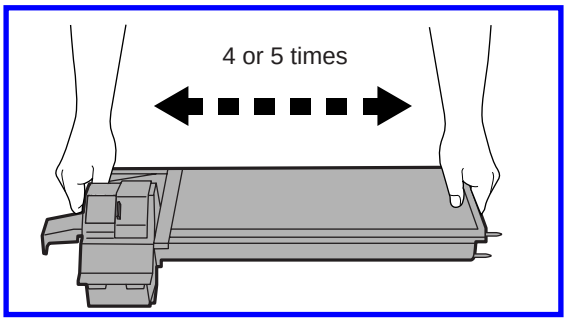
2 Push the toner cartridge lock release lever and pull the toner cartridge out. Dispose of the old toner cartridge in accordance with local regulations.



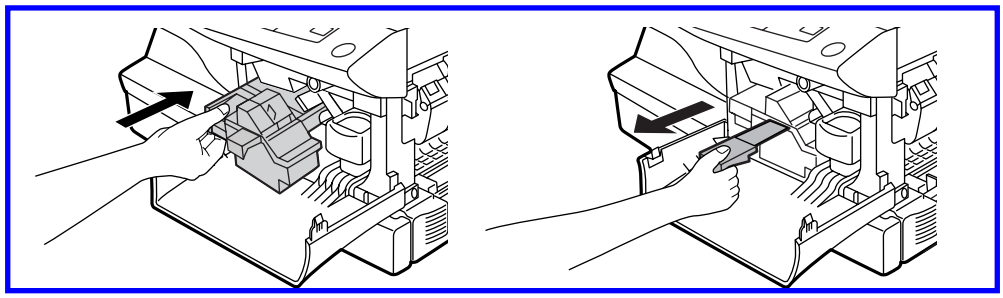
Note

After removing the toner cartridge, do not shake it or tap on it. Doing so may cause a spill of toner.

3 Remove the toner cartridge from the bag. Hold the cartridge on both sides and shake it horizontally four or five times.

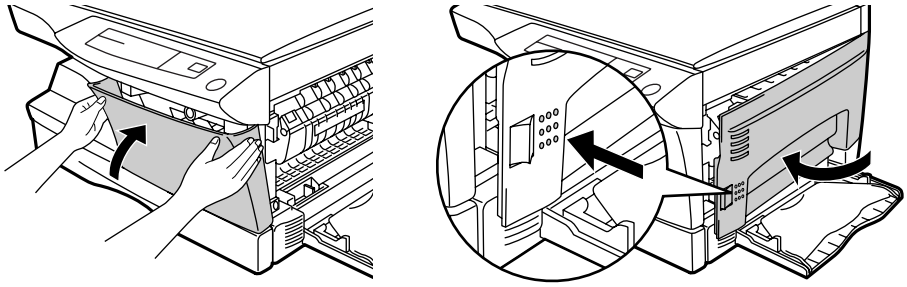


4 Gently insert the toner cartridge along the guides until it locks in place while pushing the lock release lever. Pull out the shutter and remove it from the toner cartridge as shown in the illustration.



5 Close the front cover and then the side cover by pressing the round projections near the side cover open button. The ⁂ indicator will go out and the ready (⏻) indicator will light up.

> Caution
>
> When closing the covers, be sure to close the front cover securely and then close the side cover. If the covers are closed in the wrong order, the covers may be damaged.



Toner cartridge life

To find out the approximate quantity of toner remaining, follow the procedure below.

1 Press and hold down the light (◁) and dark (▷) keys simultaneously for more than 5 seconds until all the alarm indicators (, , and) blink and "– –" appears in the display.

2 Press and hold down the copy ratio display (%) key for more than 5 seconds.
- The approximate quantity of toner remaining will be indicated in the display as a percentage. ("100", "75", "50", "25", or "10" is displayed.) When the percentage is less than 10%, LO will be displayed.

3 Press the light (◁) or dark (▷) key.
- All the alarm indicators will go out.

USER MAINTENANCE

Proper care is essential in order to get clean, sharp copies. Be sure to take a few minutes to regularly clean the copier.

Warning: Before cleaning, be sure to turn the power switch off and remove the power cord from the outlet.

Caution: Do not use thinner, benzene or other volatile cleaning agents. Doing so may cause deformation, discoloration, deterioration or malfunction.

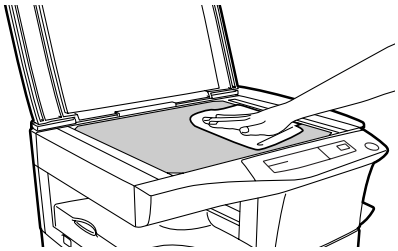
Cabinet

Wipe the cabinet with a soft, clean cloth.

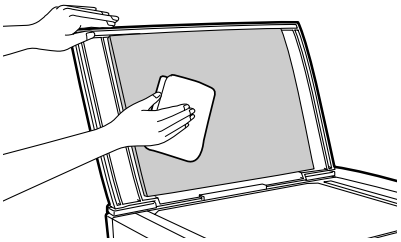
Original table and original cover

Stains on the glass or cover will also be copied. Wipe the glass and the cover with a soft, clean cloth. If necessary, dampen the cloth with a glass cleaner.

Original table



Original cover



Transfer charger

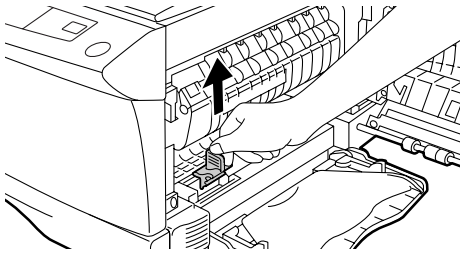
If copies start becoming streaky or blotchy, the transfer charger may be dirty. Clean the charger using the following procedure.

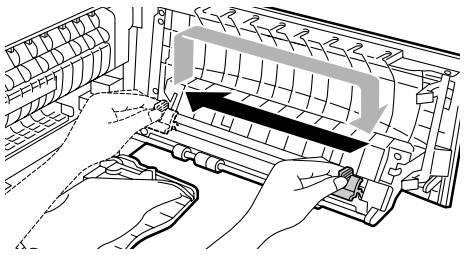
1 Turn the power switch off.

2 Ensure that the bypass tray is open and then open the side cover while pressing the side cover open button.

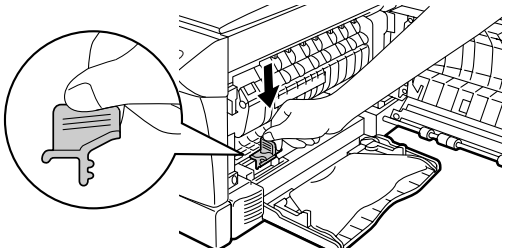
3 Take the charger cleaner out by holding the tab.
Set the charger cleaner onto the right end of transfer charger, gently slide the cleaner to the left end, and then remove it. Repeat this operation two or three times.

> Caution
> Slide the charger cleaner from the right end to the left end along the groove of the transfer charger. If the cleaner is stopped on the way, smudges on copies may occur.





4 Return the charger cleaner to its original position. Close the side cover by pressing the round projections near the side cover open button.

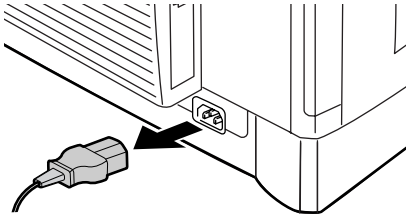


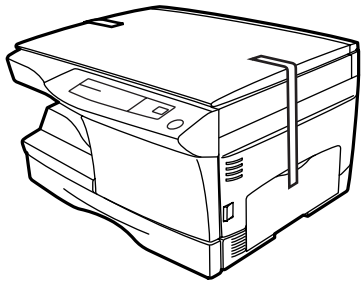
5 Turn the power switch on.

When copier is not in use

To prevent entry of dust and foreign matter, store the copier as follows.

1 Remove the power cord and secure the copier using tape (two locations).





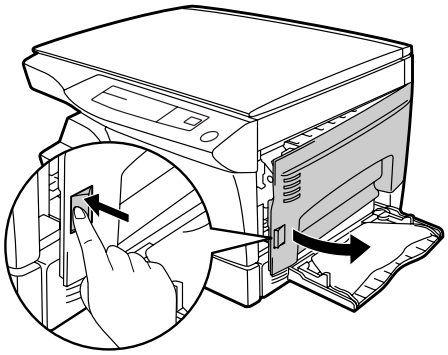
5 COPIER TROUBLE?

This chapter describes misfeed removal and troubleshooting.

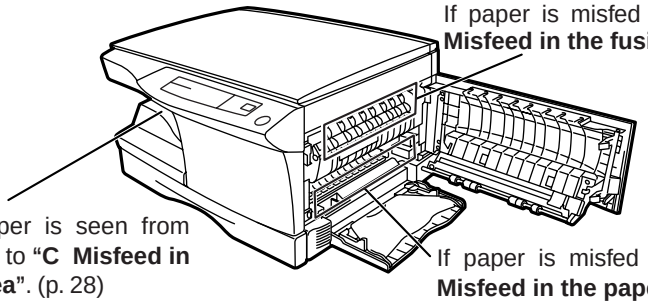
MISFEED REMOVAL

When the misfeed (⚠) indicator blinks or P blinks in the display, the copier will stop because of a misfeed.
If a misfeed occurs when using the SPF, a number may appear in the display after a minus sign. This indicates the number of the originals that must be returned to the document feeder tray after a misfeed. Return the required number of originals. Then this number will disappear when copying is resumed or the clear (C) key is pressed.
When the SPF misfeeds an original sheet, the copier will stop and the SPF misfeed (◄) indicator will blink, while the misfeed (⚠) indicator will remain off. For a misfeed of originals in the SPF, see page 38.

1 Ensure that the bypass tray is open and then open the side cover while pressing the side cover open button.



2 Check the misfeed location. Remove the misfed paper following the instructions for each location in the illustration below.
If P blinks in the display, proceed to "**A Misfeed in the paper feed area**". (p. 27)



If paper is misfed here, proceed to **"B Misfeed in the fusing area"**. (p. 27)

If the misfed paper is seen from this side, proceed to **"C Misfeed in the transport area"**. (p. 28)

If paper is misfed here, proceed to **"A Misfeed in the paper feed area"**. (p. 27)

A Misfeed in the paper feed area

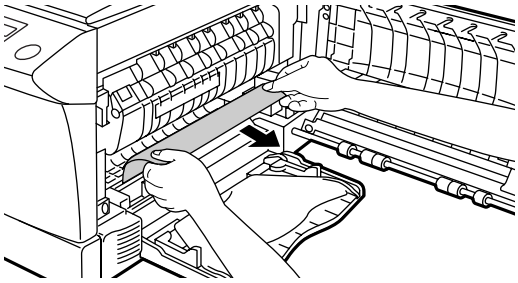
1 Gently remove the misfed paper from the paper feed area as shown in the illustration. When P blinks in the display and the misfed paper is not seen from the paper feed area, pull out the paper tray and remove the misfed paper. If the paper cannot be removed, proceed to "**B Misfeed in the fusing area**".

Warning

The fusing unit is hot. Do not touch the fusing unit when removing misfed paper. Doing so may cause a burn or other injury.

Caution

- Do not touch the photoconductive drum (green portion) when removing the misfed paper. Doing so may damage the drum and cause smudges on copies.
- If the paper has been fed through the bypass tray, do not remove the misfed paper through the bypass tray. Toner on the paper may stain the paper transport area, resulting in smudges on copies.



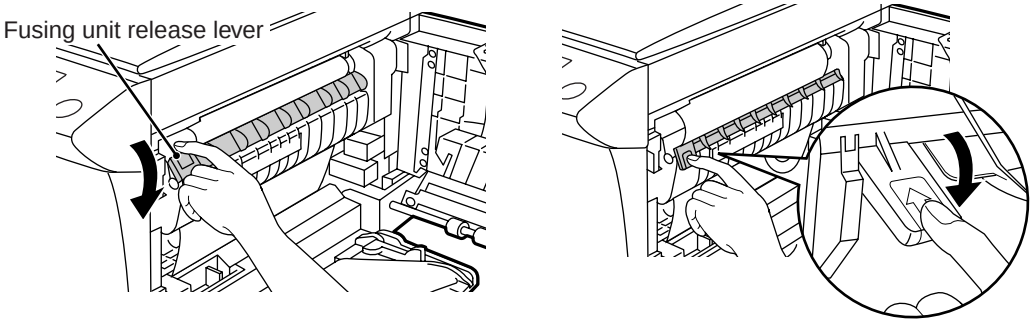
2 Close the side cover by pressing the round projections near the side cover open button. The misfeed (⚠) indicator will go out and the ready (⏻) indicator will light up.

B Misfeed in the fusing area

1 Lower the fusing unit release lever by rotating it all the way as shown in the illustration.

Note

While you are lowering the fusing unit release lever, it will not move smoothly at a location on the way. However, be sure to lower the lever by rotating it all the way to the location where it will not rotate as shown in the right illustration.



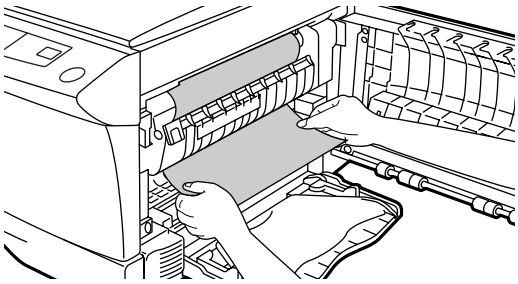
2 Gently remove the misfed paper from under the fusing unit as shown in the illustration. If the paper cannot be removed, proceed to "**C Misfeed in the transport area**".

Warning

The fusing unit is hot. Do not touch the fusing unit when removing misfed paper. Doing so may cause a burn or other injury.

Caution

- Do not touch the photoconductive drum (green portion) when removing the misfed paper. Doing so may damage the drum and cause smudges on copies.
- Do not remove the misfed paper from above the fusing unit. Unfixed toner on the paper may stain the paper transport area, resulting in smudges on copies.



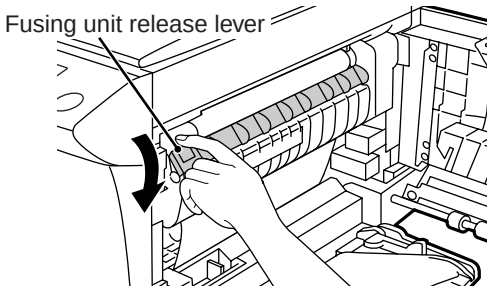
3 Raise the fusing unit release lever and then close the side cover by pressing the round projections near the side cover open button. The misfeed ( ) indicator will go out and the ready ( ) indicator will light up.

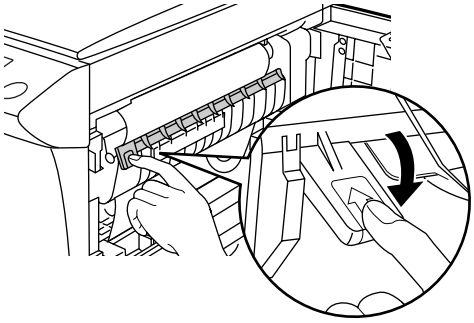
C Misfeed in the transport area

1 Lower the fusing unit release lever by rotating it all the way as shown in the illustration.

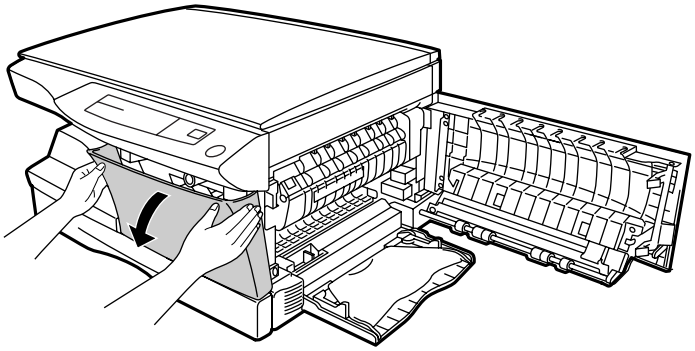
Note

While you are lowering the fusing unit release lever, it will not move smoothly at a location on the way. However, be sure to lower the lever by rotating it all the way to the location where it will not rotate as shown in the right illustration.

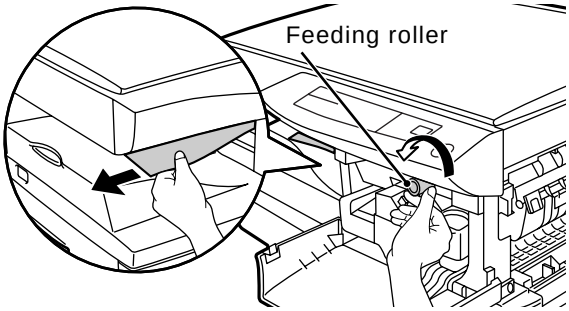




2 Push gently on both sides of the front cover to open the cover.



3 Rotate the feeding roller in the direction of the arrow and gently remove the misfed paper from the exit area.



4 Raise the fusing unit release lever, close the front cover and then close the side cover by pressing the round projections near the side cover open button. The misfeed (⚠) indicator will go out and the ready (⏻) indicator will light up.

> Caution
>
> When closing the covers, be sure to close the front cover securely and then close the side cover. If the covers are closed in the wrong order, the covers may be damaged.

DEVELOPER REQUIRED

When the ☼ ndicator lights up, the developer should be replaced.DEVELOPER REPLACEMENT SHOULD ONLY BE DONE BY AN AUTHORIZED SHARP SERVICE TECHNICIAN. Contact your service center as soon as possible.

MAINTENANCE REQUIRED

When 🧍 indicator lights up, service by an authorized SHARP service technician is required. Contact your service center as soon as possible.

TROUBLESHOOTING

If any problem occurs, check the list below before contacting the SHARP service center.

Problem	Possible cause	Solution	See page:
Copier does not operate.	Copier plugged in?	Plug the copier into a grounded outlet.	–
	Power switch on?	Turn the power switch on.	12
	Side cover closed securely?	Gently close the side cover.	–
	Front cover closed?	Gently close the front cover and then close the side cover.	–
Blank copies	Is the original placed face down on the original table?	Place the original face down on the original table.	13
Power save ( ) indicator on.	Is the copier in the preheat mode?	Press any key to cancel the preheat mode.	19
	Is the copier in the auto power shut-off mode?	Press the print ( ) key to cancel the auto power shut-off mode.	19
Copies are too dark or too light.	Is original image too dark or too light?	Adjust the exposure manually.	15
	Is the copier in the automatic exposure mode?	Adjust the automatic exposure level.	32
	Is the copier in the photo exposure mode?	Cancel the photo exposure mode.	15
Dust, dirt, smudges appear on copies.	Original table or original cover dirty?	Clean regularly.	24
	Original smudged or blotchy?	Use a clean original.	–
Striped copies	Is transfer charger clean?	Clean the transfer charger.	25
Paper misfeeds frequently.	Non-standard paper used?	Use standard paper. If using special papers, feed the paper through the bypass tray.	34
	Paper curled or damp?	Store copy paper flat in the wrapper in a dry location.	–
	Pieces of paper inside copier?	Remove all pieces of misfed paper.	26
	Paper guides in the paper tray not set properly?	Set the guides properly depending on the paper size.	10
	Too much paper in the paper tray or bypass tray?	Remove excessive paper from the tray.	10
Images rub off the copy easily.	Is the copy paper too heavy?	Use copy paper within the specified range.	34
	Paper damp?	Replace with dry copy paper. If the copier is not used for a long time, remove the paper from the paper tray and store it in its wrapper in a dry location.	35

STATUS INDICATORS

When the following indicators light up or blink on the operation panel or the following alphanumeric codes appear in the display, solve the problem immediately referring to both the table below and the relevant page.

Caution

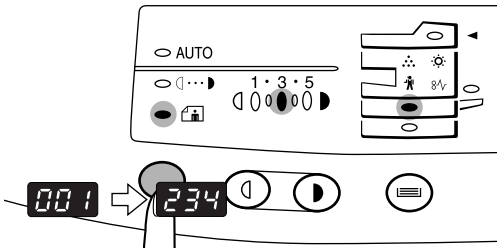
Be sure to use only genuine SHARP parts and supplies.

Indication			Cause and remedy	See page:
	Developer replacement required indicator	Steadily lit	Developer is required. Contact your SHARP service center as soon as possible.	29
	Toner cartridge replacement required indicator	Steadily lit	Replacement of toner cartridge will be needed soon. Obtain a new cartridge.	22
		Blinking	Toner cartridge must be replaced. Replace it with a new one.	22
	Misfeed indicator	Blinking	A misfeed has occurred. Remove the misfed paper referring to the description of “Misfeed removal”.	26
	Maintenance indicator	Steadily lit	Service by an authorized SHARP service technician is required.	29
◄	SPF misfeed indicator	Blinking	An original misfeed has occurred in the SPF. Remove the misfed originals referring to the description of “Misfeed in the SPF”.	38
	The paper tray indicator is blinking.		The paper tray is not installed properly. Push the tray into the copier securely.	–
	“CH” is blinking in the display.		The toner cartridge is not installed. Install the toner cartridge. If “CH” is blinking even if the cartridge is installed properly, contact your SHARP service center immediately.	22
	“CH” is steadily lit in the display.		Side cover is open. Close the side cover securely by pressing the round projections near the side cover open button.	–
	“P” is blinking in the display.		Paper tray or bypass tray is empty. Load copy paper.	10
			A misfeed has occurred in the paper tray or bypass tray. Remove the misfed paper.	26
	A letter and a number appear alternately.		The copier will not function. Turn the power switch off, remove the power cord from the outlet, and contact your SHARP service center.	–

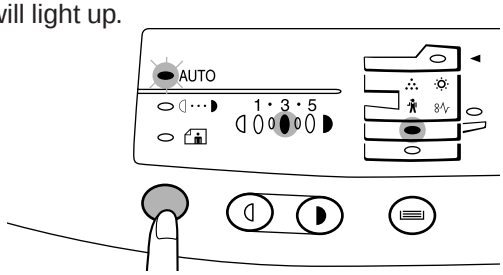
AUTOMATIC EXPOSURE ADJUSTMENT

The automatic exposure level can be adjusted to suit your copying needs.

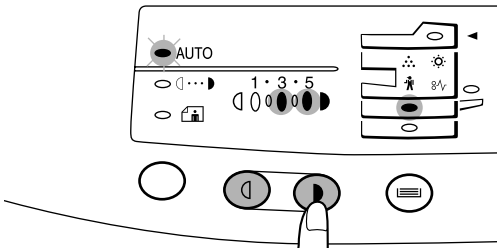
1 Press the exposure mode selector key to select the photo (🖼) mode.



2 Press and hold down the exposure mode selector key for approximately 5 seconds. The photo (🖼) indicator will go out and the AUTO indicator will begin to blink. One or two exposure indicators corresponding to the automatic exposure level which has been selected will light up.



3 Press the light (◐) or dark (◑) key to lighten or darken the automatic exposure level as desired.
If exposure level 2 is selected, the two left-handmost indicators for that level will light up simultaneously. Also, if level 4 is selected, the two right-handmost indicators for that level will light up simultaneously.



4 Press the exposure selector key. The AUTO indicator will stop blinking and light up steadily.

Note

This automatic exposure level will remain in effect until you change it again by this procedure.

6 APPENDIX

SPECIFICATIONS

Type	Digital laser copier, desk-top type
Copy system	Dry, electrostatic transfer
Originals	Sheets, bound documents
Original size	Max. 10" x 14"
Copy sizes	3-1/2" x 5-1/2" to 8-1/2" x 14" (Feed copy paper lengthwise only.) Image loss: Max. 5/32" (4 mm) (leading and trailing edges) Max. 11/64" (4.5 mm) (either of the other edges)
Copy speed	15 copies/min.
Continuous copying	Max. 99 copies; subtractive counter
First-copy time (Approximately)	9.6 s (normal copying mode)
Copy ratio	Variable: 50% to 200% in 1% increments (total 151 steps) Fixed: 50%, 64%, 78%, 100%, 129%, 200%
Exposure system	Moving optical source, slit exposure (stationary platen) with automatic exposure
Copy paper feed	One paper tray with automatic feed (250 sheets); one bypass tray with 50-sheet automatic feed capability
Fusing system	Heat rollers
Development system	Magnetic brush development
Light source	Xenon lamp
Resolution	Scan: 400 dpi Output: 600 dpi
Memory	6MB
Power supply	AC 120V (±10%), 60 Hz (±2%)
Power consumption	1,000 W
Overall dimensions	31.9" (W) x 19" (D) (809 mm (W) x 483 mm (D))
Weight	Approx. 44.1 lbs. (20 kg), toner cartridge included
Copier dimensions	20.4" (W) x 19" (D) x 11.5" (H) (518 mm (W) x 483 mm (D) x 293 mm (H))
Operating conditions	Temperature: 50°F to 86°F (10°C to 30°C) Humidity: 20% to 85%
Noise level	Sound Power Level L_{WA} Copying: 66 [dB (A)], Standby: Background noise level Sound Pressure Level L_{PA} (bystander positions) Copying: 40 [dB (A)], Standby: Background noise level Noise emission measurement in accordance with ISO 7779.

Optional equipment	Single pass feeder (AR-SP3) 250-sheet paper feed unit (AR-DE9) Facsimile expansion kit (AR-FX3) GDI expansion kit (AR-PG1) PCL expansion kit (AR-PB9)

First-copy time may differ depending on operating conditions, such as power-supply voltage and room temperature.

Note

As a part of our policy of continuous improvement, SHARP reserves the right to make design and specification changes for product improvement without prior notice. The performance specification figures indicated are nominal values of production units. There may be some deviations from these values in individual units.

SUPPLIES

Types and sizes of copy paper

For best results, use only paper recommended by SHARP.

Type of paper feeding	Type of media		Size	Weight
Paper tray	Standard paper		Letter (8-1/2" x 11") Legal (8-1/2" x 14") Invoice (5-1/2" x 8-1/2") A4 (210 mm x 297 mm) B5 (182 mm x 257 mm) A5 (148.5 mm x 210 mm)	15 lbs. to 21 lbs.
Bypass tray	Standard paper and thick paper		Letter (8-1/2" x 11") Legal (8-1/2" x 14") Invoice (5-1/2" x 8-1/2") A4 (210 mm x 297 mm) B5 (182 mm x 257 mm) A5 (148.5 mm x 210 mm) A6 (105 mm x 148.5 mm)	14 lbs. to 34.5 lbs.**
	Special media	Transparency film	Letter (8-1/2" x 11") A4 (210 mm x 297 mm)	
		Envelope*	Commercial 10 (4-1/8" x 9-1/2") Monarch (3-7/8" x 7-1/2") International DL (110 mm x 220 mm) International C5 (162 mm x 229 mm)	

* Do not use envelopes that have metal clasps, plastic snappers, string closures, windows, linings, self-adhesive, patches or synthetic materials. These will cause physical damage to the copier.
** For paper weighing from 28 to 34.5 lbs., 8-1/2" x 11" is the maximum size that can be fed through the bypass tray.
- Special papers such as transparency film and labels must be fed one sheet at a time through the bypass tray.

Caution

Be sure to use only genuine SHARP parts and supplies

SHARP GENUINE SUPPLIES

For best copying results, be sure to use only SHARP Genuine Supplies which are designed, engineered, and tested to maximize the life and performance of SHARP copiers. Look for the Genuine Supplies label on the toner package.

Proper storage

1. Store the supplies in a location that is:
   - clean and dry,
   - at a stable temperature,
   - not exposed to direct sunlight.

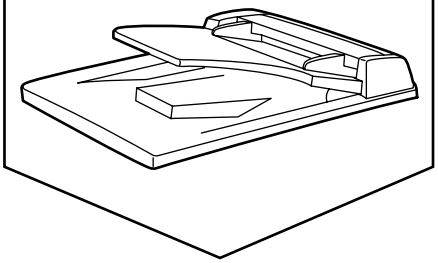
2. Store copy paper in the wrapper and lying flat.
   - Paper stored out of the wrapper or in packages standing on end may curl or get damp, resulting in paper misfeeds.

7 OPTIONAL EQUIPMENT

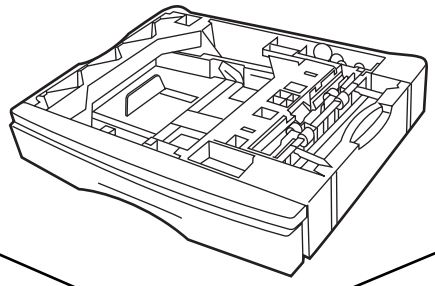
SYSTEM CONFIGURATION

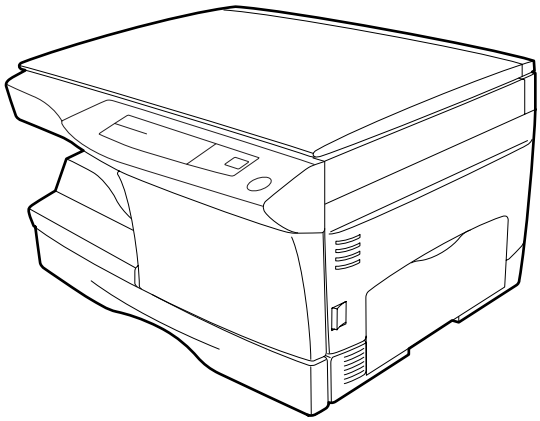
A number of options are available for the copier which allow you to configure a copier system to meet your particular needs. The options include the following.

Single pass feeder
(AR-SP3)



250-sheet paper feed unit
(AR-DE9)





Facsimile expansion kit (AR-FX3)*
GDI expansion kit (AR-PG1)*
PCL expansion kit (AR-PB9)*

* These options are not used for the copier operation. For description of these options, see their separate manuals.

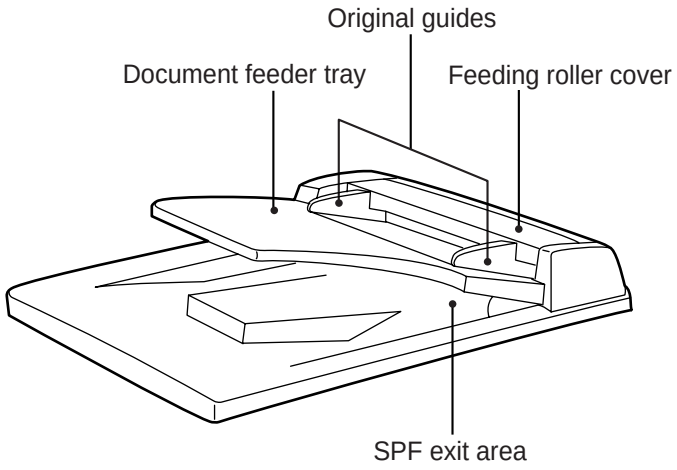
Note

The following options cannot be used together (exclusive combinations).
Single pass feeder (AR-SP3) and facsimile expansion kit (AR-FX3)
PCL expansion kit (AR-PB9) and facsimile expansion kit (AR-FX3)
GDI expansion kit (AR-PG1) and PCL expansion kit (AR-PB9)

SINGLE PASS FEEDER (AR-SP3)

The single pass feeder (SPF) holds up to 30 originals for automatic feeding.

Part names



Specifications

Acceptable originals	Weight: 14 to 23 lbs. Size: 5-1/2" x 8-1/2" to 8-1/2" x 14" Capacity: Up to 30 sheets
Power supply	Drawn from the copier
Weight	Approx. 6.6 lbs. (3 kg)
Dimensions	19.6" (W) x 15" (D) x 4.3" (H) (498 mm (W) x 380 mm (D) x 110 mm (H))

Note

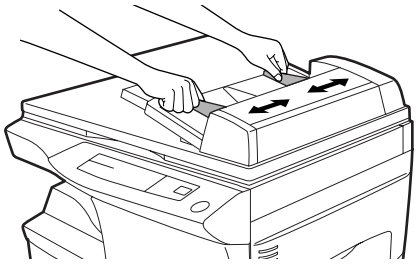
As a part of our policy of continuous improvement, SHARP reserves the right to make design and specification changes for product improvement without prior notice. The performance specification figures indicated are nominal values of production units. There may be some deviations from these values in individual units.

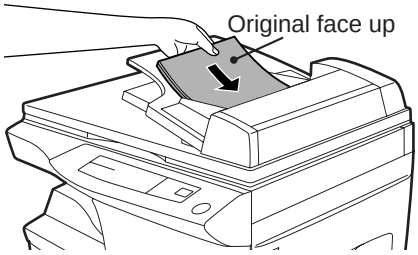
Using the SPF

(1) Make sure that no original is left on the original table.
(2) Adjust the original guides to the size of originals.
(3) Set the originals face up in the document feeder tray.

Note

- Before feeding originals in the document feeder tray, be sure to remove any staples or paper clips from them.
- Before placing curled or wavy originals into the document feeding tray, be sure to flatten them. If not, original misfeeds may result.
- The SPF (⬭) indicator on the operation panel will light up. If this indicator does not light up, the originals are not properly set or the SPF is not properly closed.
- Badly damaged originals may misfeed in the SPF. It is recommended that such originals be copied from the original table.
- Special originals such as transparency film should not be fed through the SPF, but should be placed directly on the original table.





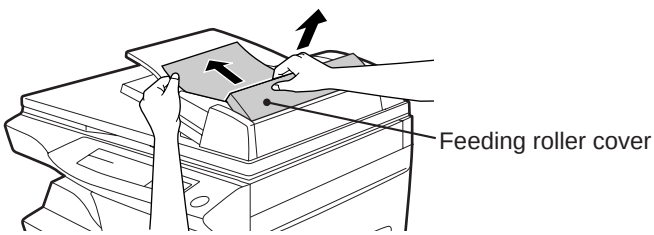
Stream feeding mode

The stream feeding mode allows easy operation of continuous copying from the SPF.
If the stream feeding mode has been enabled using user program No.4, the SPF (⬭) indicator will blink approximately 5 seconds after the last original has been fed by the SPF. While this indicator is blinking, any new originals placed in the document feeder tray will be fed and copied automatically. If the stream feeding mode has been disabled, the print (◇) key must be pressed each time the originals are set even immediately after completion of a copy run from the SPF. The default setting of the stream feeding mode is “ON”. See page 20, **USER PROGRAMS**.

Misfeed in the SPF

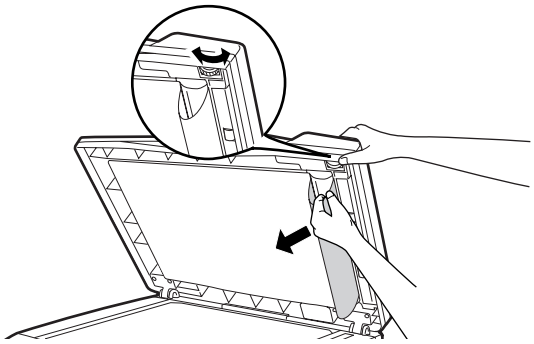
An original misfeed may occur at one of three locations: if the misfed original is seen from the document feeder tray, (A) in the document feeder tray; if the misfed original is not seen from the document feeder tray, (B) in the exit area or (C) under the feeding roller. Remove the misfed original following the instructions for each location.

(A) Open the feeding roller cover and pull the original gently to the left and out from the document feeder tray. Close the feeding roller cover. Open and close the original cover to clear the SPF misfeed (◀) indicator.
If the misfed original cannot be easily removed, proceed to (C) without pulling the original forcibly from the document feeder tray.



(B) Open the original cover and rotate the roller rotating knob to remove the misfed original from the exit area.
If the misfed original cannot be easily removed, proceed to (C).

(C) If the original does not move easily into the SPF exit area, remove it in the direction of the arrow while rotating the knob.



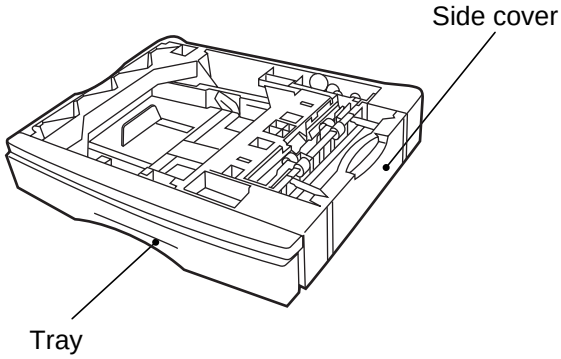
Note

A number may appear in the display after a minus sign, indicating the number of the originals that must be returned to the document feeder tray.
Clear the misfeed and return the required number of originals. Then press the print ( ) key to resume copying.

250-SHEET PAPER FEED UNIT (AR-DE9)

The paper feed unit provide the convenience of increased paper capacity for the copier and a greater choice of paper sizes readily available for copying.

Part names



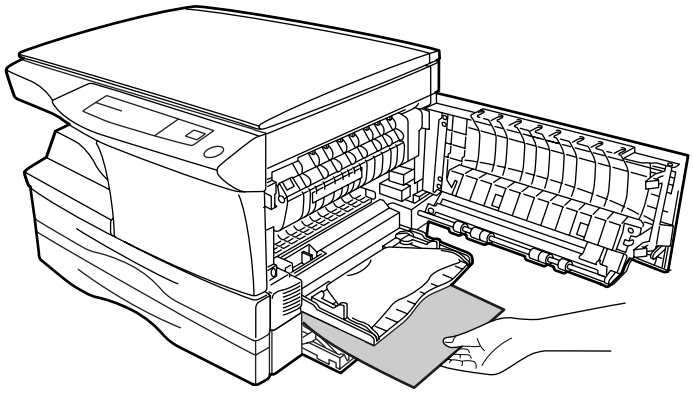
Loading copy paper

The method of loading copy paper for the paper tray of the paper feed unit is the same as for the paper tray in the copier. See page 10.
The method of changing the copy paper size is also the same for the paper tray in the copier. See page 10.

Misfeed removal

The copier will stop when a misfeed occurs. The misfeed (⚠) indicator blinks or P blinks in the display.

1 Open the lower side cover (under the bypass tray) and remove the misfed paper.
If P blinks and the misfed paper is not seen from the area of the lower side cover, pull out the lower paper tray and remove the misfed paper. Then close the lower paper tray.



2 Close the lower side cover.

3 Close the side cover by pressing the round projections near the side cover open button. The misfeed (⚠) indicator will go out and the ready (⏻) indicator will light up.

Specifications

Copy paper size	5-1/2" x 8-1/2" to 8-1/2" x 14"
Paper weight	15 lbs. to 21 lbs.
Paper capacity	One paper tray with capacity for 250 sheets of 21 lb. bond paper
Weight	Approx. 6.6 lbs. (3 kg)
Dimensions	19.6" (W) x 15.6" (D) x 3.5" (H) (498 mm (W) x 395 mm (D) x 88 mm (H))
Power supply	Drawn from the copier

Note

As a part of our policy of continuous improvement, SHARP reserves the right to make design and specification changes for product improvement without prior notice. The performance specification figures indicated are nominal values of production units. There may be some deviations from these values in individual units.

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SHARP

Date Issued:Nov. 1, 2000

MATERIAL SAFETY DATA SHEET

MSDS No. F-01001

Section 1. Product Identification

Product:

AR-152NT/T/FT/ST (Black Toner)

Section 2. Supplier's Name and Address

Sharp Corporation
22-22 Nagaike-cho, Abeno-ku, Osaka, Japan
Local suppliers are listed below. Please contact the nearest supplier for additional information.

(Country)	(Name and Telephone Number)
U.S.A.	Sharp Electronics Corporation Telephone number for information: 1-800-237-4277 Emergency telephone number: 1-800-255-3924
Canada	Sharp Electronics of Canada Ltd. Telephone number for information: 905-890-2100 Emergency telephone number: 1-800-255-3924
United Kingdom	Sharp Electronics (U.K.) Ltd. Telephone number for information: 01923-474013

Section 3. Ingredients

Ingredients	CAS No.	Proportion	OSHA PEL	ACGIH TLV	Other Limits
Styrene-Acrylate copolymer	29497-14-1	> 88 %	Not listed	Not listed	None
Carbon black	1333-86-4	< 6.0%	3.5mg/m^3	3.5mg/m^3	None
Iron oxide	1309-38-2	< 4.5%	Not listed	Not listed	None
Metal Complex dye	109125-51-1 109125-50-0 84179-66-8	< 1.5%	0.5mg/m^3	0.5mg/m^3	None

Section 4. Hazardous Identification (Emergency Overview)

Toner is a fine, black powder possessing no immediate hazard. There are no anticipated carcinogenic effects from exposure based on animal tests performed using toner. When used as intended according to instructions, studies do not indicate any symptoms of fibrosis will occur.

Section 5. Health Hazard Data

Route(s) of Entry: **Inhalation?** Yes; **Skin?** No; **Ingestion?** Possible but very unusual.

Health Hazards: Acute oral toxicity ---------- LDL_0 of this toner is over 2,000mg/kg.
Mutagenicity ---------- The result of Ames test is negative.

Carcinogenicity: In 1996 the IARC reevaluated carbon black as a Group 2B carcinogen (possible human carcinogen). This classification is given to chemicals for which there is inadequate human evidence, but sufficient animal evidence on which to base an opinion of carcinogenicity. The classification is based upon the development of lung tumors in rats receiving chronic inhalation exposures to free carbon black at levels that induce particle overload of the lung. Studies performed in animal models other than rats did not show any association between carbon black and lung tumors. Moreover, a two-year cancer bioassay using a typical toner preparation containing carbon black demonstrated no association between toner exposure and tumor development in rats.

Chronic Effect: In a study in rats of chronic inhalation exposure to a typical toner, a mild to moderate degree of lung fibrosis was observed in 92% of the rats in the high concentration (16mg/m^3) exposure group, and a minimal to mild degree of fibrosis was noted in 22% of the animals in the middle (4mg/m^3) exposure group, but no pulmonary change was reported in the lowest (1mg/m^3) exposure group, the most relevant level to potential human exposures.

Signs and Symptoms of Exposure: Minimal irritation to respiratory tract may occur as with exposure to any non-toxic dust.

Medical Conditions Generally Aggravated by Exposure: None

Emergency and First Aid Procedures:

Inhalation; Remove to fresh air. If effects occur, consult medical personnel.
Eye; In case of contact, immediately flush eyes with water for 15 minutes.

Section 6. Physical Chemical Characteristics

Boiling / Melting Point:	Not applicable	**Specific Gravity:**	1.1
Vapor Pressure:	Not applicable	**Solubility in Water:**	Negligible
Vapor Density:	Not applicable	**PH:**	Not applicable
Evaporation Rate:	Not applicable	**Viscosity:**	Not applicable
Appearance:	Fine powder	**Color:**	Black
Odor:	Odorless		

Section 7. Fire and Explosion Data

Flash Point (Method Used):	Not applicable
Ignition Temperature:	>350°C
Flammable Limits:	(LEL); Not applicable (UEL); Not applicable
Extinguishing Media:	CO_2, dry chemical, foam or water
Special Fire Fighting Procedure:	None
Unusual Fire and Explosion Hazard:	This material has no unusual fire or explosion hazards.
Sensitivity to Mechanical Impact:	None
Sensitivity to Static Charge:	None

Section 8. Reactivity Data

Stability:	Stable
Incompatibility (Material to Avoid):	None
Hazardous Decomposition:	CO and NOx
Hazardous Polymerization:	Will not occur.

Section 9. Precautions for Safe Handling and Use

Personal Protection Information (Respiratory, Eye Protection and Protective Glove):
Use of a dust mask is recommended when handling a large quantity of toner or during long term exposure, as with any non-toxic dust.

Engineering Control / Ventilation:	Not required.
Work / Hygienic Practice:	Inhalation should be minimized as with any non-toxic dust.
Steps to be taken in case of Spill or Leak:	Sweep up or clean up with vacuum cleaner.
Waste Disposal Method:	Waste material may be dumped or incinerated under conditions which meet all federal, state and local environmental regulations.

Section 10. Regulatory Information

NFPA Rating (U.S.A.):	Health = 1	Flammability = 1	Reactivity = 0
WHMIS Legislation (Canada):	This product is not a controlled product.		
Transport Information:	This product is not a hazardous material.		
UN No.:	None allocated.		

Section 11. Other Information

References: IARC (1996) IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans, Vol. 65, Printing Process and Printing inks, Carbon Black and Some Nitro Compounds, Lyon, pp-149-261

H. Muhle, B. Bellmann, O. Creutzenberg, C. Dasenbrock, H. Ernst, R. Kilpper, J. C. MacKenzie, P. Morrow, U. Mohr, S. Takenaka, and R. Mermelstein (1991) Pulmonary Response to Toner upon Chronic Inhalation Exposure in Rats. Fundamental and Applied Toxicology 17, pp. 280-299

SHARP

Date Issued :Nov. 1, 2000

MATERIAL SAFETY DATA SHEET

MSDS No. F-31001

Section 1. Product Identification

Product
AR-152ND/DV/SD (Black Developer)

Section 2. Supplier's Name and Address

Sharp Corporation
22-22 Nagaike-cho, Abeno-ku, Osaka, Japan
Local suppliers are listed below. Please contact the nearest supplier for additional information.

(Country)	(Name and Telephone Number)
U.S.A.	Sharp Electronics Corporation Telephone number for information: 1-800-237-4277 Emergency telephone number: 1-800-255-3924
Canada	Sharp Electronics of Canada Ltd. Telephone number for information: 905-890-2100 Emergency telephone number: 1-800-255-3924
United Kingdom	Sharp Electronics (U.K.) Ltd. Telephone number for information: 01923-474013

Section 3. Ingredients

Ingredients	CAS No.	Proportion	OSHA PEL	ACGIH TLV	Other Limits
Iron powder	7439-89-6	> 92.5%	Not listed	Not listed	None
Styrene-Acrylate copolymer	29497-14-1	< 7.0%	Not listed	Not listed	None
Carbon black	1333-86-4	< 0.5%	3.5mg/m^3	3.5mg/m^3	None

Section 4. Hazardous Identification (Emergency Overview)

Developer is a black powder containing small amounts of toner, and possessing no immediate hazard. There are no anticipated carcinogenic effects from exposure based on animal tests performed using toner.

Section 5. Health Hazard Data

Route(s) of Entry: Inhalation? No; Skin? No; Ingestion? Possible but very unusual.

Health Hazards: Acute oral toxicity ---------- LDL_0 of this toner which is included in this developer is over 2,000mg/kg.
Mutagenicity ---------- The toner, which is included in this developer, has been tested on Ames test. The result is negative.

Carcinogenicity: In 1996 the IARC reevaluated carbon black as a Group 2B carcinogen (possible human carcinogen). This classification is given to chemicals for which there is inadequate human evidence, but sufficient animal evidence on which to base an opinion of carcinogenicity. The classification is based upon the development of lung tumors in rats receiving chronic inhalation exposures to free carbon black at levels that induce particle overload of the lung. Studies performed in animal models other than rats did not show any association between carbon black and lung tumors. While there have been no studies to date using developer, a two-year cancer bioassay using a typical toner preparation containing carbon black (a small amount of toner is included in the developer mixture) demonstrated no association between toner exposure and tumor development in rats.

Signs and Symptoms of Exposure: Minimal irritation to respiratory tract may occur as with exposure to any non-toxic dust.

Medical Conditions Generally Aggravated by Exposure: None

Emergency and First Aid Procedures:

Inhalation; Remove to fresh air. If effects occur, consult medical personnel.
Eye; In case of contact, immediately flush eyes with water for 15 minutes.

Section 6. Physical Chemical Characteristics

Boiling / Melting Point:	Not applicable	**Specific Gravity:**	about 7.3
Vapor Pressure:	Not applicable	**Solubility in Water:**	Negligible
Vapor Density:	Not applicable	**PH:**	Not applicable
Evaporation Rate:	Not applicable	**Viscosity:**	Not applicable
Appearance:	Fine powder	**Color:**	Black
Odor:	Odorless		

Section 7. Fire and Explosion Data

Flash Point (Method Used):	Not applicable
Ignition Temperature:	>350°C
Flammable Limits:	(LEL); Not applicable (UEL); Not applicable
Extinguishing Media:	CO_2, dry chemical, foam or water
Special Fire Fighting Procedure:	None
Unusual Fire and Explosion Hazard:	This material has no unusual fire or explosion hazards.
Sensitivity to Mechanical Impact:	None
Sensitivity to Static Charge:	None

Section 8. Reactivity Data

Stability:	Stable
Incompatibility (Material to Avoid):	None
Hazardous Decomposition:	CO and NOx
Hazardous Polymerization:	Will not occur.

Section 9. Precautions for Safe Handling and Use

Personal Protection Information (Respiratory, Eye Protection and Protective Glove):	None required under normal use.
Engineering Control / Ventilation:	Not required.
Work / Hygienic Practice:	Not required.
Steps to be taken in case of Spill or Leak:	Sweep up or clean up with vacuum cleaner.
Waste Disposal Method:	Waste material may be dumped or incinerated under conditions which meet all federal, state and local environmental regulations.

Section 10. Regulatory Information

NFPA Rating (U.S.A.):	Health = 1	Flammability = 1	Reactivity = 0
WHMIS Legislation (Canada):	This product is not a controlled product.		
Transport Information:	This product is not a hazardous material.		
UN No.:	None allocated.		

Section 11. Other Information

References: IARC (1996) IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans, Vol. 65, Printing Process and Printing inks, Carbon Black and Some Nitro Compounds, Lyon, pp-149-261

H. Muhle, B. Bellmann, O. Creutzenberg, C. Dasenbrock, H. Ernst, R. Kilpper, J. C. MacKenzie, P. Morrow, U. Mohr, S. Takenaka, and R. Mermelstein (1991) Pulmonary Response to Toner upon Chronic Inhalation Exposure in Rats. Fundamental and Applied Toxicology 17, pp. 280-299

MEMO

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

WARNING:
FCC Regulations state that any unauthorized changes or modifications to this equipment not expressly approved by the manufacturer could void the user's authority to operate this equipment.

Note:
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.
However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

NOTICE

BE SURE TO ASK YOUR AUTHORIZED SHARP DEALER ABOUT THE WARRANTY THAT YOUR SELLING DEALER EXTENDS TO YOU. In order to assure you, the end-user, of warranty protection, Sharp extends a limited warranty to each of its authorized dealers and, in turn, requires each of its authorized dealers to extend its own warranty to you on terms that are no less favorable than those given to the dealer by Sharp. You should be aware, however, that Sharp does not itself extend any warranties, either express or implied, directly to you, the end-user, and no one is authorized to make any representations or warranties on behalf of Sharp. Specifically, SHARP DOES NOT EXTEND TO YOU, THE END-USER, ANY EXPRESS WARRANTY OR ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR USE OR FITNESS FOR ANY PARTICULAR PURPOSE IN CONNECTION WITH THE HARDWARE, SOFTWARE OR FIRMWARE EMBODIED IN, OR USED IN CONJUNCTION WITH THIS PRODUCT. Sharp is not responsible for any damages or loss, either direct, incidental or consequential, which you, the end-user, may experience as a result of your purchase or use of the hardware, software or firmware embodied in or used in conjunction with this Product. Your sole remedy, in the event that you encounter any difficulties with this Product, is against the authorized dealer from which you purchased the Product.

AR-151 Digital Laser Copier

In the event that this authorized dealer does not honor its warranty commitments, please contact the General Manager, Business Products Group, Sharp Electronics Corporation, Sharp Plaza, Mahwah, NJ 07430-2135, so that Sharp can try to help assure complete satisfaction of all the warranty rights to which you are entitled from the authorized dealer.

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